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TYPHOID FEVER.

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WHILE we are aware that the general subject of typhoid fever is one about which little that is new can be said, in view of the host of able contributions which have already been made, we have thought that some peculiar phases of this common disease which we have encountered during the past few weeks were sufficiently unusual to warrant a report, both interesting from a clinical point of view and useful by reason of the addition made to the statistics regarding the complications of enteric fever.

The first cases of which we shall speak presented acute mania ushering in the attack. The histories are as follows:

Annie M., aged twenty-four years, was admitted to St. Agnes Hospital, March 18, 1891. She had been feeling badly for some time, but until four days previously had been able to do her work. On the 14th she had severe headache, vomited a little, suffered from pain in the stomach, and had

some diarrhœa, these symptoms being followed on the subsequent day by not very profuse epistaxis. She walked a considerable distance to the hospital, and on her admision at 10 P.M. her temperature was found to be 105°. The resident physician found that her tongue was thickly coated, dry and brown. On the next day, when seen by us in the wards, the tongue was unusually clean, even for that of a healthy person. The patient was delirious, and so violent that it required four or five persons to keep her in bed. The temperature, after an unusually prolonged and severe struggle, was found to be 106°. At this time every symptom of typhoid fever was completely masked by the mania. The bowels were moved, and the passages were of *normal consistency and color*. The urine was somewhat scanty and high-colored, and the pulse full and strong. There were no rose spots or other enteric symptoms. At the end of twenty-four hours the patient, still being in a condition of wild mania, was removed to a cell, the impression being that it might be a case of hysterical mania with hyperpyrexia. Twenty-four hours later the mania had disappeared, and the typhoid symptoms once more reasserted themselves; the delirium became more quiet and muttering, and she was taken back to the wards. During the following week she was constantly delirious, and frequently maniacal, although there would be short momentary intervals of sanity. During this time a large number of rose spots appeared on the abdomen and chest, the tongue became heavily and typically furred, the temperature followed a characteristic course, the typhoid odor was present, and an occasional nose-bleed helped to confirm the diagnosis of typhoid fever. The patient rapidly became worse, and died thirteen days after admission, without becoming sane, except for the brief intervals named.

The second case is as follows:

Mr. A., living in Milwaukee, aged thirty-four years; married; one child. A sister died of convulsions, of unknown nature, but a short time before the onset of his illness. Family history otherwise negative. At the age of seventeen the patient, according to the statement of his physician, had an attack of typhoid fever, attended with as much, if not more delirious excitement than this, the second attack. The history of the case begins with the circumstance that Mr. A. was nursing his wife, who was down with a mild attack of typhoid. The patient's first complaint was of headache and insomnia. The visiting physician, seeing him on the following day, ordered him to bed, recognizing the case as one of typhoid fever, rather because of the existence of a like case in the same house and from the mere complaint of malaise, than from any symptons particularly characteristic of the disease. The patient obeyed the instructions of the physician, and went to bed, still complaining of insomnia. Hardly had he fallen into mild slumber when, not more than an hour later, he suddenly awoke, delirious, and grew steadily more so. During the following night he became maniacal, rushed to the room of the nurse (she had been procured since the husband's illness), burst open the door, threw the nurse to the floor, and assaulted her in a most violent manner, kicking and striking her, and accusing her of wishing to harm his wife and child. The nurse finally managed to escape, and ran for the physician, who lived across the street. In the meantime the patient jumped through a window leading to a small balcony over the front portico, and leaped to the ground, where he was found a few moments later by the physician. Strange to say, the man suffered little injury, being slightly bruised by the fall, and somewhat cut by the

glass; but stranger still was the fact that he was now quite rational, telling the physician all that had transpired, and what he had done. The patient was again put to bed, now apparently quite comfortable. The physician left him to see the wife in an adjoining room. Hardly, however, had he gone when Mr. A. suddenly sprang from the bed, rushed into the kitchen, where he seized a large knife, and then rushed back, bent upon assaulting the physician. He was, however, overpowered, and again forced to bed. He now rested comfortably, and when seen the following day was doing well. That evening a condition of hyperpyrexia suddenly intervened, and in a few hours the patient was dead.

The interesting features of these cases are that the enteric fever was ushered in by mania. As is well known, it is not uncommon for typhoid fever to be followed by nervous or mental disorders of a more or less persistent character, but it is exceedingly rare for the attack to begin as it did in the cases here reported. Liebermeister, in his article on typhoid fever in Ziemssen's *Cyclopædia*, states that it is by no means rare to see psychical disturbances which do not depend upon any demonstrable lesion, and which generally are of favorable prognosis. In these cases, however, the mental disorder is a *sequela*, not an early symptom, and the condition is to be separated from ordinary delirium. Although Liebermeister gives no statistics as to these complications, and makes little reference to cases such as we have described, he uses these words:

"At the height of the disease, however, the development of such symptoms, or of any uncommon brain symptoms, must be looked upon with alarm." In

Hutchinson's article in Pepper's *System of Medicine*, *post*-typhoidal mania is fully discussed, but nothing is said of *pre*-typhoidal mania. Niemeyer does not mention such a complication.

The following cases, which we have found in the literature of the subject, are of interest. Murchison[1] reports the case of a German who was much excited over the Franco-Prussian War. After about four days of discomfort and malaise, he suddenly passed into a state of acute maniacal delirium, requiring two men to control him. There was an absolute refusal of food, a temperature of 102°, with a dry tongue and rapid pulse, slight diarrhœa, and no spots. The patient was subdued by large doses of chloral, and the fever ran its course. The same author also states that in several instances he has known acute mania to develop on the first day of an enteric fever, and that under these circumstances the case is very apt to be mistaken for insanity.

J. C. Wilson[2] asserts that delirium may be an early symptom of enteric fever, and quotes Riberalba, who reported four cases which were delirious on admission to the hospital. Louis saw two cases which were delirious on the first night of their illness. Bristowe has also reported a case in which maniacal delirium existed on the second day. Mottet mentions an instance of typhoid fever complicated with mania to such a marked extent that the patient was placed in an asylum before the true nature of the ailment was discovered, and Henrot and Bucquoy have seen the disease ushered in with the delirium of grandeur.

[1] Lancet, 1870, ii. p. 807.

[2] Philadelphia Medical Times, 1884-85, xv. 577-581.

Finally, Daly[1] records an instance in which aggressive mania came on on the fifth day, following a condition of stupor.

From a careful examination of a large amount of literature, we are convinced that the prodromal mania in enteric fever is most rare and, when it occurs, is almost always fatal, while the mania which is in the nature of a sequela may be looked upon as devoid of immediate or remote danger to mind or body. We have also asked a large number of physicians as to their experience, but the reply has been that they have never met with pre-typhoid mania.

Passing from the consideration of this complication, let us call attention to a much more common, but still a rare, accident in the course of this disease. We refer to *erysipelas*. According to Liebermeister (loc. cit.), this complication occurs generally during convalescence and *seldom at the height* of the disease, and this writer also believes it may be a dangerous factor. In 1420 cases of typhoid fever in Basle, erysipelas appeared ten times, and all of the ten recovered. These were all cases of facial erysipelas. Two others developed the disease about bed-sores. In other words, erysipelas occurred in a little less than 1 per cent. of these cases. Griesinger[2] states that it occurs in about 2 per cent.

The following cases occurred within a period of six weeks of each other in the wards of St. Agnes Hospital. The first was separated from the second by an interval of five weeks, and the second from

[1] THE MEDICAL NEWS, 1882, xl. p. 68.

[2] Infectionskrankheiten.

the third by less than a week. They were all in the same ward, but occupied beds at least twenty feet apart. The first case is as follows:

Maggie T., aged twenty-two years, was admitted December 16, 1890, with a history of chronic suppuration of the middle ear. She was treated at the dispensary and rapidly improved, being discharged on December 23d. On January 8, 1891, she was readmitted with well-defined symptoms of a mild attack of typhoid fever, which ran a short course, the patient being discharged on January 30th. On February 2d she entered the house, complaining of pain in the abdominal region and in the knees and elbows; the pains were not very severe, but the joints were somewhat swollen; the tongue was brown and dry, and all the symptoms, such as the stools, the rose-colored spots, the characteristic temperature and appearance of the patient, pointed to a second attack of typhoid fever, although at first the case was treated as one of rheumatism. The temperature did not exceed 103°, and the patient went through a moderately severe attack of typhoid fever without complication, except for very marked enlargement of the glands of the neck, which was relieved very promptly by the use of an ice-collar. On March 5th a well-defined erysipelatous swelling appeared over the left side of the face, about the temples and malar bone, and gradually extended over the entire face and part of the scalp. The eyes were completely closed, and the lips very much swollen. The mouth was very painful, being covered with sordes to such an extent that it was impossible for the tongue to be protruded, and it was almost impossible for food to be taken. The throat was very dry, and a spray of listerine was used as a mouth-wash. The ordinary treatment for typhoid

fever was at once withdrawn, and the patient was put on 30 drops of the tincture of chloride of iron, three times a day. Under this treatment she improved, and by March 16th all inflammation had entirely disappeared, leaving only some swelling, which, in the course of the next two weeks, entirely passed away. The patient during this time continued to manifest symptoms of typhoid fever and was unable to leave her bed on account of this disease for three weeks after the erysipelas had disappeared. Total recovery eventually took place.

The second case was that of A. E., a female aged twenty, who was admitted to the wards with all the early symptoms of enteric fever, which developed into a moderately severe attack, but was without any extraordinarily severe symptoms. It was estimated that at the time the erysipelas developed she was in the third week of the typhoid fever. At the onset of the erysipelas there was a chill, followed by a rise of temperature of 2°, and followed, after the use of a cold bath, by a fall to the temperature course previously pursued. The erysipelas began about the bridge of the nose and extended rapidly over the entire face back to the ears and to the margin of the hair, whence it ceased to spread. The eyes were closed and the lips much swollen. An examination of the serum withdrawn by a lancet showed the characteristic streptococci of erysipelas. Under the use of large doses of tincture of the chloride of iron and an application of ichthyol ointment, recovery rapidly took place. The mouth was unusually foul and dry, but no delirium was present. We could not notice that the complication in any way increased the gravity of the case.

The third case is as follows: A woman, aged nineteen, a Swede, was admitted in the early stages

of typhoid, which ran a mild course, devoid of delirium or any symptoms of importance, except that on an afternoon about the middle of the third week of her illness she developed a sudden rise of temperature to 104°, followed at once, on the use of cold bathing, by a fall to 98°, with loss of the pulse at *both* wrists. As a precautionary measure, she was treated as if suffering from intestinal hæmorrhage, and soon rallied, developing during the next twelve hours a typical patch of erysipelas on the right side of the nose and over the malar bone. There was no further disturbance of the typhoid temperature, and the disease remained limited to that side of the face. The patient was treated with iron and ichthyol.

By far the most exhaustive study which we have found concerning erysipelas as a complication of typhoid fever is that of Gerente.[1] According to this authority, the complication comes on in one of every sixty-one cases, which would give a much higher percentage than that of Liebermeister or Griesinger. Gerente states that females are more commonly affected than males, which is a curious fact, because males are more exposed and more frequently have typhoid fever. In regard to the period of the disease at which erysipelas, as a rule, appears, Gerente states that it is generally after the twenty-first day, and he also believes that some epidemics of typhoid are peculiarly liable to this complication. The following conclusions of Gerente, however, embody most of his statements:

1. Erysipelas of the face is rarely met with during the course of typhoid fever. I have found it

[1] Thèse de l'École de Médecine, 1883–84, t. i.

in 64 out of 3910 cases, which is about 1 to 61. These figures are derived from the following statistics:

	Typhoid Fever. Cases.	Erysipelas. Cases.
Chomel	130	4
Louis	134	3
Forget	92	1
Jenner	65	2
De Larroque	105	4
Zuelzer	84	3
Liebermeister	1420	10
Zuccarini	480	18
Griesinger	500	10
Murchison[1]	900	9
	3910	64

2. Outside of the question of contagion, it appears to be most frequent in the grave, adynamic forms of typhoid and in those of long duration; it appears to be most frequent in lymphatic subjects.

3. While observed at all the stages of typhoid fever, erysipelas shows itself especially and almost exclusively during the last period and during convalescence.

4. Under these circumstances erysipelas produce a marked amelioration in the general as well as in the local symptoms.

5. The appearance of facial erysipelas in the course of typhoid fever is of grave prognosis (16 deaths out of 36 cases): this gravity lies less in the erysipelas, which most frequently is benign in itself, than in the poor general condition of the patient,

[1] The number of Murchison's cases is not strictly correct.

the secondary infection being an indication of this condition.

6. The complication consists in a simple coincidence favored by debility, the result of the primary and principal disease.

We think the statement that erysipelas seriously influences the prognosis in all cases too sweeping. Thus, there are cases on record in which the onset of the acute disease has not in any way retarded convalescence. If the disease becomes phlegmonous, the prognosis is, of course, very grave, but if the inflammation is capable of undergoing resolution the prognosis is good.

The question as to the path by which the contagion finds entrance has been much discussed, but the opinion of Griesinger is generally accepted. He believes that the germs gain entrance by means of the inflammation of the frontal or sphenoidal sinuses, and also when ulceration of the buccal mucous membranes exists. Zuelzer also points out that in his own cases and in those of Zuccarini the erysipelas started in the stomatitic spots and ulcerations in the mouth.

In all our cases the patients complained very much, both before and after the attack of erysipelas, of the soreness of their mouths.

The following cases which have been reported in addition to the three of Gerente are interesting:

Armieux[1] reports the case of a soldier, in whom typhoid symptoms set in on September 18, 1881, with pain in the head, vertigo, abdominal tenderness, pain in the right iliac fossa, and an elevated temperature.

[1] Rev. Méd. de Toulouse, 1875, ix. 42.

On October 4th, a complication arose in an otorrhœa, which, by the 22d, was growing steadily worse, so that the patient's condition was critical. Now, facial erysipelas made its appearance, beginning in the auditory canal. Early in November osteitis of the humerus set in, and the patient died on the 9th of November.

Thielman[1] reports the case of a man, aged thirty, brought into the hospital in an unconscious condition. The right ear, eyelids, nose, greater part of the face and forehead were covered with an erysipelatous eruption. The tongue was dry and brown, there was pain in ileo-cæcal region, and the liver was painful and enlarged. The fever was recognized as typhoid and the patient put upon calomel. The patient was in a delirious condition, but on the following day there was a slight remission, and he became partly conscious. The erysipelas was seen to be spreading further over the face, but leaving its original seat. There was delirium the following night and semi-consciousness. Desquamation set in on the right side of the face, the eruption extending on the left. The pulse grew stronger, but the tongue was still brown in the centre. The patient was noticed to be troubled with occasional cough, and the respirations were somewhat more frequent. Examination showed a hypostatic congestion of the lungs. The condition became critical, but was relieved, and the patient gradually improved, being dismissed as cured on the thirty-fifth day after admission.

M. Berthoud[2] reports the case of a soldier who had typhoid fever of a meningeal type. The typhoid fever was declining, but convalescence was tardy,

[1] Med. Jahresbuch v. Peter-Paul Hosp. in St. Petersb. (1840, 1841), 142–147.

[1] Gaz. des Hôp. de Par., 1848, vol. v. p. 29.

and his general condition was unsatisfactory. At this time the scrotum became tumefied and red, the redness spreading to the inguinal regions, while the general condition became very poor. The scrotum was triple its natural size, red, moderately warm, tender, not very painful, but œdematous, the redness extending to the right and left inguinal regions, as far as anterior superior spinous process, and also to the internal aspect of the thigh. The skin in these parts was swollen but soft, and the color persisted on pressure. On the next day there was no amelioration of the symptoms, but a very small area of necrosis appeared on the scrotum, which was treated by the application of the cautery. On the following day the necrosis seemed to be arrested and the scrotum reduced in size. The general condition, however, remained alarming. Six days later the patient died, after a subdelirium of four hours. The autopsy showed that the iliac and renal veins were involved in a plastic and suppurative inflammation, a case of erysipelas of the veins. The conclusion reached is that the redness of the skin and infiltration were due purely to mechanical causes, viz.: the stagnation of blood.

Freudenberger[1] has recorded two cases, in one of which erysipelas appeared suddenly on both ears in the course of typhoid fever, without unfavorable symptoms. On the following day a chill and rapid advance of the disease took place. The typhoid fever was now considered as declining, but the prognosis grave, because of the erysipelas. In the second case facial erysipelas suddenly appeared during convalescence from typhoid fever, although the temperature was already quite low. The fever became high again, but was easily influenced by antipyretics. The pulse was 140.

[1] Aertzl. Intelligenzblatt. München, 1880, xxvii. p. 37.

Potain[1] reports a case of erysipelas coming on during convalescence from typhoid fever, which was accompanied by a severe chill and fever. The erysipelas began in the pharynx and palate and did not affect the tonsils. On the next day the inflammation appeared at the corners of the mouth and on the face.

Finally, Martinez[2] reports the following cases:

A girl, twenty years of age, belonging to the lower class, of lymphatic temperament, with very irregular menstruation, which was often almost absent, was taken ill with typhoid fever. The symptoms were obscure at the onset of the disease, but the most prominent manifestation was an erysipelatous inflammation of foot and leg. On the fourth day the erysipelas was marked, there was great fever, cephalaglia, and other typhoid symptoms, such as weakness, gurgling in the right iliac fossa, dryness and tremblings of the tongue, sordes on teeth, great stupor, delirium, and a frequent and small pulse. Death took place after some days.

Whether the erysipelatous trouble had anything to do with the causation of the typhoid symptoms or not Martinez does not state, but he mentions the case of another woman in whom an extensive erysipelatous inflammation of the face and scalp produced cerebral symptoms, fever, etc., but they were not so pronounced as to be confounded with those caused by true typhoid fever, as in the present instance. In this case the patient recovered.

[1] "Erysipèle de la Face consecutif à la Fièvre typhoide." Gaz. des Hôp. de Paris, 1880, liii. p. 1106.

[2] La España Médica, Madrid, March 1, 1860, p. 135.

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